

Supplemental Data 1

Four outside slides are reviewed which include and H&E, Giemsa, GMS and Gram stain. The H&E demonstrates skin with surface keratosis that is uniform. It includes small inclusion cysts and evaginated crypts that contain laminated keratin debris. There is a sparse scattering of benign peripheral nerves and small vessels and capillaries. No unusual inflammation or evidence of granulomatous inflammation or malignancy is found. There are a few skin appendages including sebaceous glands and a few pilosebaceous units. These include hair follicles and a few abortive hair shafts. In addition there are clustered hair follicles and hair shafts. The shafts appear solid and contain a scattering of relatively coarse brown pigment. Some of these hair shafts and clusters of hair shafts occur fairly deep in the dermal portion of the section. The dermal collagen is fairly bland and paucicellular. There are some areas with suboptimal preservation but show components compatible with skeletal muscle bundles with peripheral flattened nuclei near the epidermis. Definitive cross striations are not identified secondary to the nature of fixation. Preservation overall is adequate for review but does include some artifactual shrinkage from dehydration preservation rather than usual formalin fixative. The gram stain demonstrated a few rare structures morphologically compatible with bacterial organisms. However there is no tissue reaction or inflammation in the vicinity. These could be artifact and incidental due to processing and staining. The Giemsa does not demonstrate definitive organism and no silver positive fungal organisms or definitively identified in the GMS stain. There is some background silver positive material both in the dermis and in the surface laminated keratin debris. Some tissue remains intact in the paraffin block and could be used for additional stains or studies if warranted.

This tissue sections reviewed show sufficient preservation for adequate histologic review. The basic epidermal and dermal histological architecture and cellular constituents are intact.

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Addendum: It seems there are some abnormalities with abortive hair shafts, various alopecias etc. where hair follicles can be grouped. However, the clustering deeper in the dermis than the level of dermis where most skin appendages usually occur is unusual and is not generally associated with hair follicle loss as is seen with alopecia. This appeared to be hair follicle addition or at least some extra follicles, clustered and deeper in the dermal region. There was also lesser numbers of eccrine glands and even sebaceous gland/pilosebaceous gland units than you usually see in human skin. The relative number of skin appendages is somewhat dependent on which part of the body the skin comes from so that would be location specific. Some surfaces have lots of hair and others considerably more eccrine glands. It is difficult to say where the combination in these sections came from especially since the deeper dermal clustering is not usually found in human skin.